PROJECT TITLE : Additives and Analytical Services

Period Covered : April 22 - May 27, 1980
Report Written by : A. Widmer
Report Approved by : F. Lopes

TRIALS WITH NEW SUPPLIERS OF TOBACCO ADDITIVES

- Ethanol (REGIE FEDERALE DES ALCOOLS, Bern/yellow sheet 5631, 5000 l)

  As a consequence of a change in the storage system of ethanol, the product will be supplied in cisterns.

  The analytical results of the first shipment correspond completely to our specifications.

- Honey (USEGO, Olten; "ex YUCATAN" / yellow sheet 5609, 295 kg)

  Laboratory: The sample is within specifications.

  Panel B: Not accepted because of a significant difference between the standard and the test-cigarettes (MLF-CH).

  Concluded on May 12, 1980.

- Inverted sugar (ex DEVOLDER, Bruxelles)- Ref. 1

  The content of inverted sugar and total sugar is too low.

- Propylene glycol (IMPAG, Zürich; "ex BAYER" / yellow sheet 5599/0.5 kg)

  The sample corresponds to our specifications. As this product has been considered not acceptable by Panel A (test-cigarettes: MLK-DB) one year ago, it is not planned to produce test-cigarettes for the moment.

- Raw cane sugar (ex MAURITIUS) - Ref. 2.

  The test-cigarettes (MLB-DB) have not been accepted by Panel A because of a significant difference to the standard.

QUALITY CONTROL OF TOBACCO ADDITIVES

- Cocoa shells - Ref. 3

  A sieve with an aperture of 2.5 mm is mounted at the entry of the mill. This is in order to avoid the blocking of the mill by the too high fat content of the primary material. All material passing this sieve is considered as waste and returned to the supplier. Today, in some cases up to 30 % of the raw material passes the sieve. Analyses on the waste have been carried out in order to improve the yield of the final product.

  The waste was sieved and divided into 6 fractions. On each fraction, water content, SiO_2, ash- and fat-contents were determined. The results for water, SiO_2 and ashes did not show significant differences. On the other hand, the fat-content depends on the granulation.

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Fraction	Granulation (mm)	fat (%)
1	2.5 - 2.0	n.d.
2	> 1.19	3.3
3	> 0.595	4.7
4	> 0.42	6.5
5	> 0.30	9.2
6	< 0.30	11.4
final product		3.1

On the basis of these results we suggested to make a trial with a sieve of an aperture of 0.6 mm. If there are no difficulties on the technical level, this would permit the recovery of about 50 % of the waste.

QUALITY CONTROL OF AFTER CUTTING SOLUTIONS

- ROK-AC (PMH) - Ref. 4

  On request of the purchasing department, a stock of ROK-AC, produced in PMH, has been examined. No differences to the standard have been detected as regards analytical data (density, refraction, water- and ethanol-content), appearance and odour.

TRIALS WITH NEW SUPPLIERS OF GLUES

- Glue for cigarette-seam (HENKEL CHEMIE G.m.b.H., Pratteln; "SPA 7636 x 3" / yellow sheet 5608, 5 kg)

  For this glue, which in principle is not in accordance with the German legislation, a special permission for its usage has been granted until July 31, 1981.

  Machineability: The glue has a better adhesiveness than "Lesso 1487 x 3" and can be applied at ambient temperature.

  The test-cigarettes (MLF-CH) have been accepted by Panels A and B.

  200 kg of this glue have been ordered for a long term test.

- Glue for tipping paper (LAESSER AG, Erlinsbach)

  Two types of modified glues for porous paper have been proposed:

  - "Lesso 1186/10 A" (yellow sheet 5536, 1 kg)
  - "Lesso 1186/10 B" (yellow sh-et 5537, 1 kg)

  Machineability: No significant improvement has been noted compared with the standard glue. Further trials are not planned.

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- Glue for packing machine (LAESSER AG, Erlinsbach)

Three types of modified glue have been proposed:

- "Lesso 5012" (yellow sheet 5685/200 kg)
- "Lesso 5014/41" (yellow sheet 5684/200 kg)
- "Lesso 5021/3" (yellow sheet 5682/200 kg)

Machineability: The three types gave better results than the standard glue. "Lesso 5021/3" gave the best results of the three types. 500 kg of this glue have been ordered for a second trial.

- Glue for packing machine (LAESSER AG, Erlinsbach; "Lesso 1476"/ yellow sheet 5607, 50 kg) - Ref. 5.

The glue, foreseen for the group 19 MAK didn't give better results than the standard. Further trials are not planned.

TOBACCO

- Storage of tobacco (Project ETNA) - Ref. 6.

A trial was carried out in order to determine the influence of packing material (single cardboard boxes or plastic bags in cardboard boxes) on the o.v. - content of the tobacco depending on the storage time. 100 kg tobacco with 19 % oven volatiles were filled into three boxes of each type. The oven volatiles were measured after one day and four days. The trial showed two essential points:

1) The moisture increases on the upper parts of the stocked tobacco (difference between the upper and lower layer in plastic bags: 0.6 % after four days).

2) The moisture is maintained in the boxes with plastic bags, whereas in the cardboard boxes there is an evaporation of water at the surface which results in a loss of moisture in the upper layer of 0.8 % after one day and 1.9 % after four days.

On the basis of these results, we recommended the use of plastic bags in cardboard boxes.

PRODUCT QUALITY

- Mentholated cigarettes (NIGERIA) - Ref. 7.

The following results have been found:

Menthol		TARGET	GREEN SPOT
mg/cig	:	2.46	1.98
mg/cig in the smoke	:	0.52	0.46
transfer to smoke (%)	:	21	23
µg/puff	:	58	53

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We noted that the results for the brand "GREEN SPOT" are completely different from those of the first analyses (January 1980). In order to be sure of the applied menthol quantity and to get an idea about the quality of application, we will make menthol analyses on cigarettes taken according to our proposed sampling plan.

- Determination of sugars in MER (PMG) and MLF (PMH) - Ref. 8

Fructose, glucose and saccharose have been determined by HPLC on different cigarette productions as well as in the basic tobacco blend. The following results have been found:

MLF (PMH)

		cigarette (average of 3 prod.)	tobacco (cut filler) (average of 7 prod.)	difference cigarette-tobacco *
Fructose	(% d.w.) :	3.6	3.0	+ 0.6
Glucose	(") :	3.3	2.3	+ 1.0
Invert sugar	(") :	6.9	5.3	+ 1.6
Saccarose	(") :	2.4	0.8	+ 1.6
Total sugar	(") :	9.3	6.1	+ 3.2

MER (PMG)

		cigarette (average of 6 prod.)	tobacco (average of 6 prod.)	difference cigarette-tobacco
Fructose	(% d.w.) :	2.9	2.6	+ 0.3
Glucose	(") :	2.3	2.0	+ 0.3
Invert sugar	(") :	5.2	4.6	+ 0.6
Saccharose	(") :	3.6	0.9	+ 2.7
Total sugar	(") :	8.8	5.5	+ 3.3

Compared with the first analyses in March 79, the content of fructose, glucose and total sugar is slightly lower in both brands, whereas the content of saccharose is slightly higher.

* The difference is due to the added sugar (which is not recovered entirely).

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PROJECT TITLE : Additives and Analytical Services

SERVICES FOR OTHER GROUPS

- Analyses for Mr. F. Moser

  Total nitrogen, Mg, Ca, K in tobacco (9 samples)

- Analyses for Mr. P. Ghiste

  Chloride in extracts (13 samples)

QC ANALYTICAL SERVICES

A. Widmer

REFERENCES

1) Letter from A. Widmer to Mr. W. Tessendorf dd. May 5, 1980

2) Letter from A. Widmer to Mr. W. Tessendorf dd. May 5, 1980

3) Letter from A. Widmer to Mr. M. Stauffer dd. May 23, 1980

4) Letter from A. Widmer to Mr. R. Froidevaux dd. April 29, 1980

5) Monthly report A. Widmer February 1980

6) Report A. Schwarb dd. May 5, 1980
   Letter from A. Widmer to Mr. C. Renaudin dd. May 5, 1980

7) Letter from A. Widmer to Mr. D. Polack dd. April 29, 1980
   Monthly report A. Widmer January 1980

8) Report A. Widmer dd. May 21, 1980
   Monthly report A. Widmer April 1979

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